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ABSTRACT

This research examined stress in the kindergarten in the public school system of North Carolina. A questionnaire was designed to collect information from public school kindergarten teachers concerning seven stressors: (1) academic tasks that students were developmentally unable to handle; (2) death of a close family member or friend; (3) the move to a new home or school; (4) a new sibling; (5) personal injury or illness; (6) separation or divorce of parents; and (7) family tension (other than number 6). Teachers were requested to indicate the number of students in their classes who were displaying signs of stress due to each of the stressors. Teachers then ranked the severity of the stress and added comments. The data revealed that the 419 teachers who responded perceived their students to be exhibiting symptoms of stress caused by many factors. Trauma in the family resulting in the separation or divorce of a child's parents was cited as causing the most severe symptoms of anxiety. Academic tasks that students were developmentally unable to handle caused the next-to-most severe symptoms. The data indicated that the teachers surveyed felt pressured by parents, colleagues, and established curriculum to meet academic objectives. (RJC)

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Stress in Kindergarten Children 1

Academic Stress in Kindergarten Children

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Abstract

In recent years stress has become an epidemic of national concern involving not only adults but children as well. Educators are becoming increasingly concerned by anxiety levels in their students. The purpose of this research was to examine the phenomenon of stress in the kindergarten experience of the public school system of North Carolina.

A questionnaire was designed to collect information from kindergarten teachers. Six stressors were selected from a modified Holmes and Rahe stress scale as having high stress-producing potential for the kindergarten-age population. A seventh, stress resulting from academic tasks the students may be developmentally unable to handle, was added to make a total of seven stressors included in the questionnaire.

Teachers were requested to indicate the number of students in their current classes displaying signs of stress due to each of the seven stressors. Teachers were then requested to rank the stressors as to the severity of symptoms produced by each. The survey also included a section allowing comments by teachers.

Six hundred eighty-seven questionnaires were mailed to public school kindergarten teachers in North Carolina. Four hundred nineteen, 61 percent, were returned. This provided data concerning 9658 kindergarten children.

The data revealed that teachers perceive their students to be exhibiting symptoms of stress caused by many factors. Trauma

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within the family resulting in the separation and/or divorce of a child's parents is cited as causing the most severe symptoms of anxiety. Following second, and the factor causing the greatest number of stressed students , are academic tasks the students are developmentally unable to handle. The Data indicate that the teachers surveyed feel pressured to accomplish academic objectives by parents, colleagues, and established curriculum.

Stress in Kindergarten Children

Stress. The term originally coined in the fields of engineering and physics to describe the amount of strain a physical structure could bear now refers to human beings and their capacity to cope with the strain of life in a technological, fast-paced society.(Kuczen, 1987) The consequences of stress have become an epidemic of national concern and the focus of increased media attention. Even the very young have not escaped anxiety's grasp. Dr. David Elkind in his book The Hurried Child reports, "Today's child has become the unwilling, unintended victim of overwhelming stress--the stress borne of rapid, bewildering social change and constantly rising expectations."

Tension in a child's home environment is often a source of stress. Child psychologist Antoinette Saunders states, "Children today lack support. Their families are more mobile and spread out. Many families are simply falling apart."

Anxiety factors are not limited to home and family. Educators are becoming increasingly disturbed by "large numbers of children visibly stressed because academic demands are greater than their developmental capacity to respond" (Soderman, 1984, p. 12). This includes even the youngest of public school students, our kindergarten children. Accusing fingers have been pointed at curriculum changes, citing the inclusion of reading

and writing objectives many feel are academically and developmentally inappropriate (Soderman, 1984).

The purpose of this research was to examine the phenomenon of stress in the kindergarten experience of the public school system of North Carolina.

Specific questions that were addressed during this research included the following:

1. Are kindergarten children enrolled in North Carolina public schools displaying symptoms of stress as recognized by their teachers?
2. What is the incidence of stress-produced symptoms caused by academic tasks the students are developmentally unable to handle as compared with other stressors assigned high stress-producing potential by a modified Holmes and Rahe stress scale?
3. How do symptoms of stress caused by academic tasks the students are developmentally unable to handle rank when compared with symptoms caused by other stressors with regard to the severity of symptoms displayed?

The concept of childhood, so vital to the traditional American way of life, is threatened with extinction in the society we have created. Today's child has become the unwilling, unintended victim of overwhelming stress-the stress borne of rapid, bewildering social change and constantly rising expectations. (Elkind, 1981, p.3)

Stress. Although the term and the media attention that has made it a household word seems to have emerged as a consequence of the fast-paced times of recent years, the study of the phenomenon really began in the late 1800s. It was at this time that physiologists introduced the idea that

man had an inner balance which had to be maintained. When change occurred in the environment, the body made adjustments to bring things back into balance in order for the organism to remain healthy. (Kuczen, 1987, p. 4)

In 1930, Walter Cannon, an American physiologist, named this process "homeostasis." Cannon also coined the phrase "fight or flight" that is used extensively in the discussion of stress today. David Elkind explains "fight or flight":

The stress response dates back to the earliest stages of human evolution, to our animal heritage. We in fact have two brains: an old brain, which regulates most of our bodily functions-heart rate, respiration, adrenalin levels in the blood, and so on-and a new brain which permits memory, perception, reasoning, and the like. The old brain was essential when humans were still hunter-gathers and were dependent upon the immediate physical environment for sustenance. Early man was constantly engaged in fighting off predators and in protecting himself and his family from severe weather and disasters.

Humans used on such occasions what they inherited from their animal ancestors-the old brain. Walter Cannon ... suggested that when the old brain was activated beyond normal levels, it prepared the individual for "fight or flight" ... (1981, p. 144)

What happens in the body during this readying for "fight or flight?" Cannon and Seyle identified four predictable steps. David Elkind describes these steps in The Hurried Child:

The first (step) is a rapid mobilization of energy reserves. Messages are sent from the old brain to the nervous system and a general alarm is sounded. Adrenalin is pumped into the blood, heart rate quickens, breathing becomes more rapid, the stomach and intestines stop digesting, blood pressure rises dramatically, and the senses become more acute and more attuned to every sight and sound. Hormonal activity of many different kinds is at work to increase our energy reserves...

Once the alarm system has sounded, the next step is a rapid increase in energy consumption. At such times, we draw up our energy reserves of which, according to Seyle, there is only a finite amount...

The next step, for which the mobilization and energy consumption were preparatory, is vigorous physical activity...

The last and final step in the stress reaction is a return to equilibrium. After a stressful situation, the usual reaction is to find peace and quiet. (1981, pp. 146-147)

Hans Selye, a neurophysiologist at McGill University, is generally credited with the coining of two important terms, "stress" and "stressor."

"Stress" is a word borrowed from the fields of engineering and physics. It

refers to physical forces and the ability to withstand strain. In this regard, stress is measured with relative precision. In bridge construction, for example, experts can calculate just how much stress a structure can take before trouble sets in. More recently, psychologists, sociologists, and medical practitioners have borrowed the term. (Kuczen, 1987, p.4)

A "stressor" is any stimulus that initiates the stress response. It should be noted that stressors can be positive in nature as well as negative. Both "call for an extra effort of adaptation." (Elkind, 1981, p. 142) Thus, a birthday celebration and a heated argument between parents can both be stressors for a child.

The causes of stress in children are many. The October 27, 1986, issue of U. S. News and World Report, whose cover story

focuses on "Children Under Stress," notes that "stress on children begins at home." (p. 59) Dr. Morris Green of the Indiana University School of Medicine observes:

The consumer of pediatric care, the family, is different. The working mother, the one-parent family,, separation, desertion, divorce, alternative lifestyles, increased mobility, and the mounting stresses of everyday life constitute the new ecology of childhood-social fragments in an ever-changing pediatric montage. (1983, p. 276)

Child psychologist Dr. Antoinette Saunders, co-author of *The Capable Kid: Raising Children to Handle Stress*, notes:

Children today lack support. Their families are more mobile and spread out. Many families are simply falling apart. Sixty percent of all children will live in a single-parent home before they reach the age of 18. The other 40 percent are concerned that a divorce will affect their families soon. (1984, pp. 29-30)

As the divorce rates soar, so does the concern for the children involved:

The stresses felt by children with families goes double for children of broken homes. In the last 15 year, 15.6 million marriages ended in divorce, disrupting the lives of

16.3 million children under the age of 18. The number of preschoolers living with a single divorced parent soared 111 percent in the last 15 years...

Not surprisingly, children of divorce show more signs of stress than others. According to a 10-year study by Judith Wallerstein, executive director of the Center for the Family in Transition near San Francisco, who has looked at the impact of divorce on 130 middle-class children, 37 percent of them were more emotionally troubled five years after the divorce than they were initially, ("Children Under Stress," 1986, p. 62)

Many of these children will find themselves thrust into a new relationship with the remarriage of a parent. Although discovering themselves again in a more traditional two-parent situation, the "remarriage of a divorced parent often adds to, rather than subtracts from, a child's stress, by shattering his or her last hopes for a reconciliation and rearranging family loyalties." (Children Under Stress," 1986, p. 63)

The medical community has recognized the rise in psychosocial problems in their young patients. A recent study in Pediatrics, the Journal of the American Academy of Pediatrics, reports that "children and adolescents with a psychosomatic diagnosis accounted for between 5.7% and 10.8% of all pediatric patients." (Greene, Walker, Hickson and Thompson, 1985, p. 19) The study reportedly reflects a restricted grouping of children

and thus led the authors to add, "The prevalence of recurrent pain may be considerably higher in the general population of children and adolescents." (Greene et al, 1985, p. 19) Children are experiencing real pain-from stress.

Another article published in Pediatrics reports that the vast majority of questions parents feel the need to pose to their pediatricians are of a psychosocial, not biomedical, nature. (McCune, 1984) It is Dr. Morris Green's opinion that this decade

has truly been one of change and transition. In general children are now physically healthier. Their impairments today are more likely to be of a developmental, psychosocial, or educational nature. (1983, pp. 275-276)

It is the latter that causes concern in the educational community. This concern appears to be justified. Pediatricians are seeing an increased number of patients due to problems at school. As one physician observes:

The pediatrician, albeit reluctantly, has become the court of last resort for distressed parents who seek help when their children are remanded from school for learning or behavioral problems. (Eisenber, 1980, p. 361)

The medical community has also recognized a major difficulty in assessing the influence of stressful events in the life of a child in the lack of a "systemic method of assessing stress among...patients." (Greene et al., 1985, p. 19)

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Symptoms of stress in children are often difficult to describe. Barbara Barker, a Massachusetts classroom teacher, noted in a recent issue of Learning magazine:

How do you recognize a child who's stressed? He's quiet, withdrawn, nervous, and has headaches and stomachaches, right? Not always. When I gave workshops for stressed children, I was surprised to find that some of them were wild, fidgety, and constantly demanding my attention. I learned that children show stress in different ways... (1987, p. 46)

In recent years, teachers have been recognizing increased symptoms of stress in their students:

Reactions to stress can include headaches, stomach problems, mood swings, belligerent behavior, and poor attention spans. Teachers have always seen these symptoms in their classes, but it is not merely in their imaginations that more children today exhibit them. (Reed, 1984, p. 29)

Accusations have been hurled at kindergarten curriculums as expecting too much academically. Critics claim that the curriculum "taught to kindergarten children today is what was expected of the first grader 15 years ago." (Soderman, 1984, p. 12)

A study of available literature shows that even 15 years ago there was great division in what was expected of kindergarten children.

In an article in the November 1963 issue of Saturday Review, Dorothy Weisman, director of a New York nursery school, advocates play for the kindergarten child:

Play is the beautiful central fact of childhood. Through it a child may strengthen his growing powers, may express his deepest feelings, may comfort himself, may discover and explore the paradoxes of the world and of himself, may create true answers and beautiful ones, may leave the objective universe in order to find it. Play is both fragile and tough. It may be destroyed by adults' literalness and insistence upon order, but will spring up out of the unquenchable human need to find meaning. For it is through play that a child may find his own unique connection with the world he was given. (p. 78)

Ms. Weisman discourages the emphasis on the teaching of reading to kindergarten children:

Those who are concerned that children must read in the kindergarten have taken a wrong turning. Instead of asking when children are ready to read, one should ask instead, "What is the relation of reading to thinking and general

learning?" Learning of skills is widely confused with intellectual maturing, as if the intellect reigned in a kind of mind box, alone and pure, accessible only to a key labeled "reading." (1963, p. 78)

It would seem that the National Education Association agreed at this time with Ms. Weisman's aversion to reading instruction with kindergarten children. In a pamphlet entitled, Kindergarten Today, published by the NEA in 1963, the following admonition was made, "Immature eyes and hands are not ready for the exacting tasks of reading and writing."

Other educators during this same time period favored an opposite, more academic approach to kindergarten curriculum. Virginia Simmons, a kindergarten teacher at a private school in Cincinnati, disagreed with a play-oriented curriculum when she stated, "... today's fives are tired of play; they are eager and ready to being the serious work of reading, writing, and arithmetic." (1963, p. 71) She continued:

... I accept the premise of "learning through play," but I believe such learning is strictly limited. The five-year-old should be taught the difference between play and work and should be trained in good work habits. (p. 72)

Ms. Simmons was very emphatic about her academic expectations and boastful of her young students' achievements:

My five-year-olds learn to write, count, add, subtract, divide; they learn basic geometric forms and elementary algebra; they use rulers and compasses; they learn to spell and to read fifty to seventy-five words. They understand the concept of zero, that a straight line is the shortest distance between two points, that all radii of the same circle are equal, that $3/6$ and $4/8$ are also $1/2$, that $4/3$ is $1-1/3$, and that if 3 is divided by 2 it becomes $1-1/2$. This year, out of a class of twenty, six subtracted and added in the hundreds and three in the thousands. (1963, p.71)

A May 1965 issue of New York Times Magazine notes an increase in Montessori schools, observing that parents who are "eager for their preschool tots to learn reading, writing, and arithmetic have organized more than 100 Montessori schools in the past six year." (p. 35) Montessori schools follow the teaching philosophy of Marie Montessori who stressed the importance of the ages 3 to 6 in a child's cognitive development and advocated a series of developmental tasks to be worked by the child alone and at his/her own pace. (Gross & Gross, 1965) Ms. Montessori had her own ideas about the place of play in her classroom:

In the strictly utilitarian atmosphere of the Montessori classroom, there are none of the usual toy animals, dolls, trucks, or dress-up costumes. Children in "pure" Montessori schools are virtually restricted to materials she devised, which are intended to suppress

fantasy and imaginative play. Montessori proclaimed to encourage them along such lines is to encourage defects of character. (Gross & Gross, 1965, p. 35)

Some educators during this early 1960s time period were sensitive to the wide differences in educational philosophy, for the kindergarten child:

... the five-year-old has emerged as the most maligned, misunderstood, and underestimated child in the public school system today. Some still view him as being capable of little more than stringing beads, singing songs, and drinking milk. Others view his fifth year as strictly a period of social adjustment. Many others feel that unless the kindergarten child is engaged in a formal reading-readiness program, his efforts are being wasted and therefore have no worth. All of these groups are blurring the true picture of the five-year-old. As a result, in many schools the five-year-old is being denied the education he deserves. (Hillman, 1963, p. 76.)

These educators advocated a developmental curriculum, offering reading-readiness instruction only for those students who were ready and interested:

Let's organize the kindergarten so none are hurt, but none are bored. The child who is ready only to play should

be given every consideration, just as should the child who is ready to read, write, and count. (Kelley, 1963, p. 58)

In the words of another educator:

In any good school district there exists an open-end curriculum. This means no child is locked within a given level, and the teacher is free to take the student in any direction that will stretch and challenge his quest for learning. (Hillman, 1963, p. 76)

That was the situation 20 years ago. Has the conflict of opinion been resolved today? A 1980 resource reports:

The importance of the kindergarten year is agreed upon by educators, parents, and others concerned with young children. Despite this agreement, there is little consensus on how best to educate the child during this vitally important year. Should the child enjoy the unfettered life to which he or she had become accustomed and progress through naturally occurring stages of development, or should the structure of the later school years be introduced so as to take advantage of the learning potential the child? (Barbe, Milone, Lucas, & Humphrey, 1980, preface)

So the controversy continues. Some educators cling to the academically-oriented curriculum and others charge that this emphasis is causing symptoms of stress.

Little research has been done on the degrees of severity of stress-produced symptoms, especially comparing those produced by school-related causes and those produced by home and family situations. Leon Eisenberg, of the Harvard Medical School, returned to the Coleman Report, commissioned in 1964 as part of the Civil Rights Act (Kent, 1968) when he touched on the subject:

It has become part of the conventional wisdom, since the massive Coleman study of public schools in this country, that schooling makes little difference to achievement when contrasted with the impact of home circumstances. (1980, p. 362)

Method

A questionnaire was designed to collect information from kindergarten teachers. Six stressors were selected from a modified Holmes and Rahe stress scale as having high stress-producing potential for the kindergarten-age population. A seventh, stress resulting from academic tasks the students may be developmentally unable to handle, was added to make a total of seven stressors included in the questionnaire:

1. academic tasks that students are developmentally unable to handle.
2. death of a close family member or friend
3. move to a new home or school
4. new sibling

5. personal injury or illness
6. separation/divorce of parents
7. family tension (causes other than 6)

A pilot study for thesis research was conducted in one county of North Carolina during the spring of 1985 . During the spring of 1986 a statewide survey of kindergarten teachers was conducted. A list of public school kindergarten teachers was obtained from the North Carolina State Department of Public Instruction. Twenty-five percent of these teachers were selected at random to receive the questionnaire.

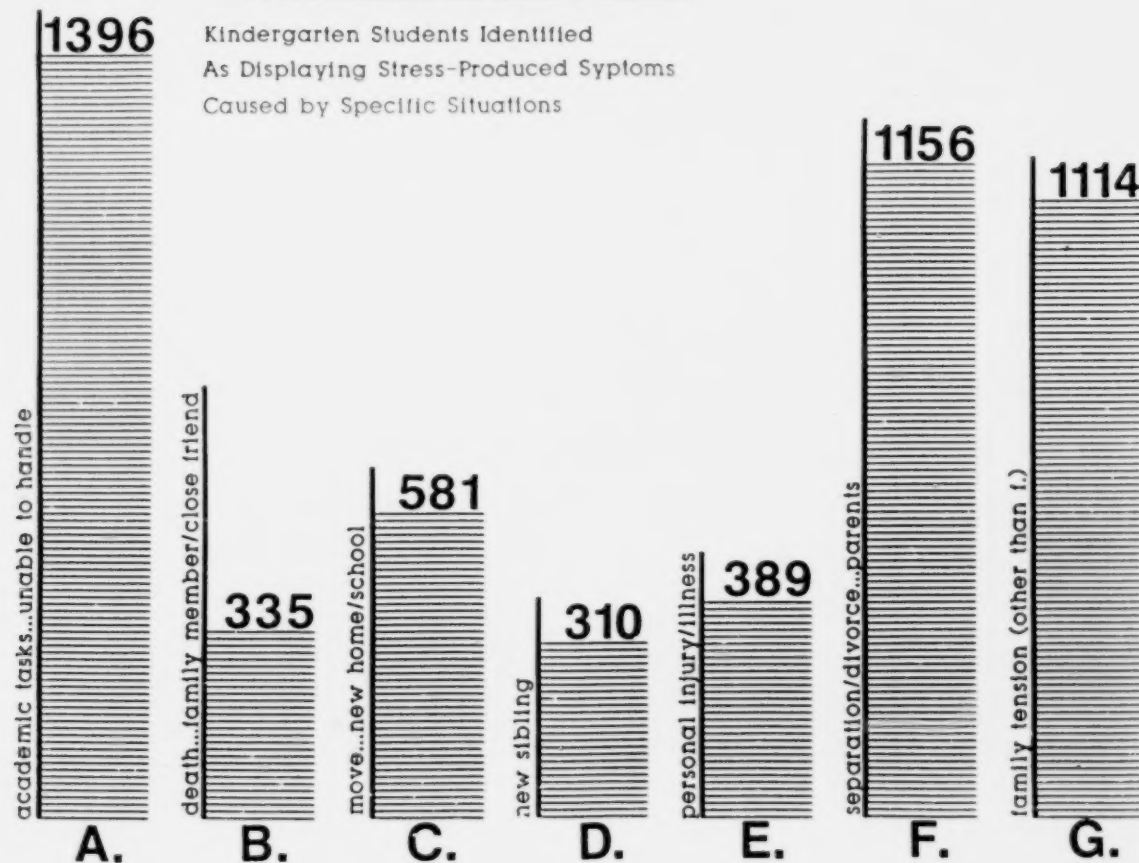
Teachers were requested to indicate the number of students in their current classes displaying signs of stress due to each of the seven stressors. Teachers were then requested to rank the stressors as to the severity of symptoms produced by each. The survey also included a section allowing comments by teachers.

Results

A total of 687 questionnaires was mailed. Four hundred nineteen, 61 percent, were returned. This provided data concerning 9658 kindergarten children.

Kindergarten children in North Carolina were identified as displaying symptoms of stress caused by all seven stressors.

Stress in Kindergarten Children Fig. 1

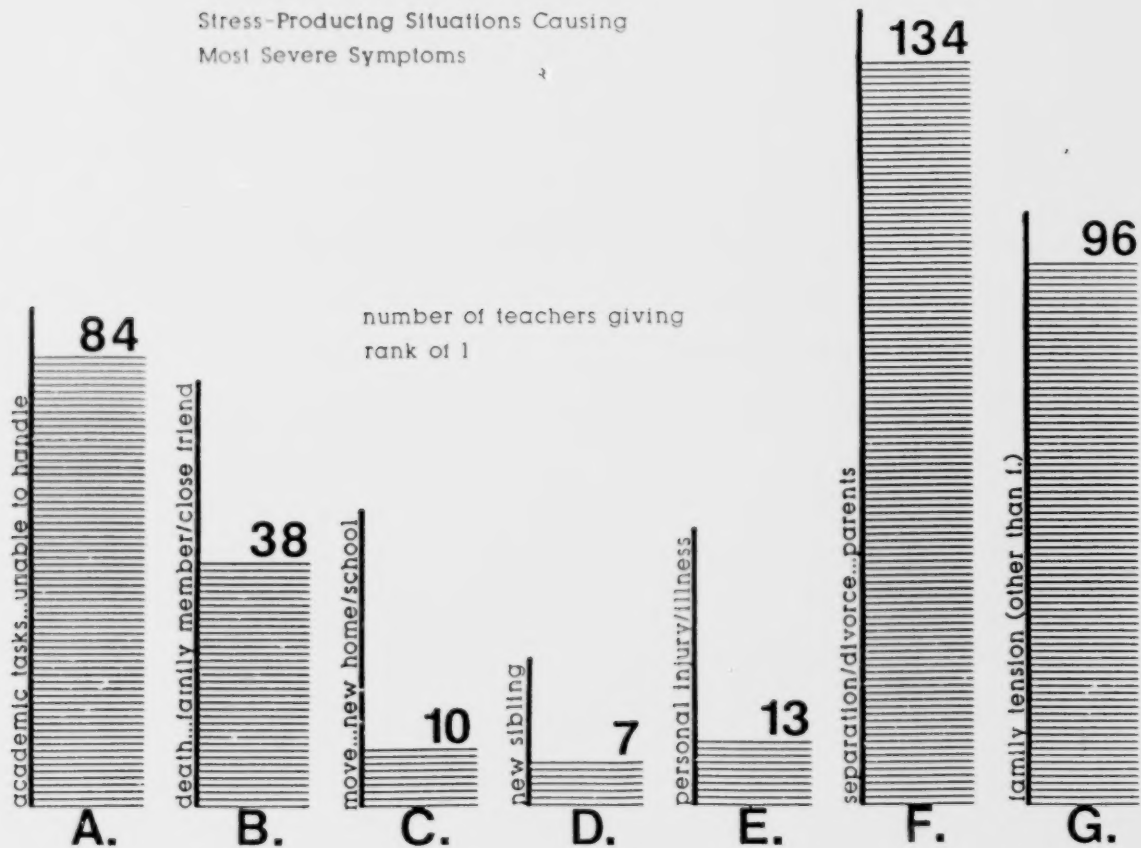


It should be noted that tasks children were developmentally unable to handle caused stress in the greatest number of students. This was followed closely by stressors within the family structure.

When the teachers were asked to rank the seven stressors as to severity of symptoms, anxiety over academic tasks ranked third, preceded only by stress due to separation/divorce of parents and other family tensions.

Stress in Kindergarten Children Fig. 2

Stress-Producing Situations Causing
Most Severe Symptoms



CONCLUSIONS

Although the data were limited to a study in North Carolina schools, it is not unreasonable to expect similar results elsewhere in the United States. The data show that children in North Carolina kindergartens are exhibiting symptoms of stress as recognized by their kindergarten teachers. Stress related to

academic tasks that students were developmentally unable to handle was reported to have the highest incidence but was ranked as the third most severe cause of stress by teachers. Even though there were more children affected by academic stress, teachers do not see consequences as severe as those resulting from divorce or family problems. The high incidence of stress continues to confirm the works of Elkind (1983) and Soderman (1984) that children are experiencing stress at early ages. This research suggests that kindergarten, or at least the implicitly or explicitly required academics of kindergarten, can become a major contributor to stress in young children. The severity of this situation may warrant the re-evaluation of the purpose of the kindergarten year of public education. As we see the push towards public education for four-year-old children, we see the potential for an increase in academic stress at an even earlier age as academic expectations may be filtered down to these younger students.

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